



Sugarbush
SOARING
www.sugarbushsoaring.com

The Flight Line

Volume 29 No.1

May 2015



Soaring in New Zealand

Tim Larsen Photo

President's Message

With opening workday just a few weeks away, the time has come to review developments at Sugarbush Soaring since we put the equipment away last October.

As you know, we sent Luke Hammer off to school with an enthusiastic send-off at the FEFY dinner last summer. Little did anyone know we would not see him again. The celebration of his life, with hundreds packed into the church and outside in the cold listening to the service is testimony to the deep and abiding effect on his loved ones and those lucky enough to have known him. Bob Messner and other members will be working on a way to honor Luke in a way that will perpetuate his legacy. Stay tuned.

Last season, four of our aircraft sustained varying levels of damage sufficient to take them out of service. All will be back in service on or soon after opening day. Some might say the damage was what one might expect when most of our 1,410 tows last year involved Club aircraft. Chief Pilot Rick Hanson and the BOD feel otherwise. As a result, Rick, Steve Platt, Tom Emory and new Board Member Tom Anderson have become charter members of our newly-constituted Safety Committee. They have spent many hours this winter developing a complete safety program designed to increase knowledge and the sense of "situational awareness" of operational rules and procedures for all members and visitors venturing beyond the parking lot and tower. Some – if not most – of the rules will carry a "zero tolerance" for violations. Please plan on attending the mandatory annual safety briefing on Saturday, May 16 to gain a further understanding of the program and your role in its fulfillment.

Donations totaling almost \$8,000 helped pay for a portion of the cost of repairs and helped Tom Emory, our Treasurer, issue a favorable end-of-year report at our winter BOD meeting in February. Overall, we exceeded several milestones and fell short of a few. We are solvent with taxes paid and fuel in the tank. You can read his report elsewhere in this newsletter. When you see him this season, please join us in thanking Tom for the terrific job he has done as steward of our finances and for his eagerness to give us a clear picture of the club's financial situation at all times.

Tim Larson, Dave and Barb Ellis and Maryann & I travelled to New Zealand during the winter to experience soaring at Omarama Gliding. Dave and Barb went to celebrate the twentieth anniversary of the first world championship held there.

That competition was the first where Dave's Cambridge Instruments were used to log the event's flights. Tim was there in November, and we arrived at the field after three weeks in January. Tim and I are planning to write an article for the website about our experiences there complete with photos and video soon.

The tower's restaurateur for the last four years notified us a couple of weeks ago that she is not returning. We are sad to see her make that decision. Kim showed us how good it can be to have someone on the premises providing quality food at affordable prices. As of this writing, we are looking for someone to take over the operation and call it his/her own. Let Steve Platt or Tom Emory know if you have an idea or contact that may help us in any way.

Our club website was built using Apple software that is no longer supported. It is not easy to navigate on a smartphone, which has become the primary device many members and visitors alike use online. We are not set up to take advantage of being online to schedule and monitor our operations. With these facts in mind, Carl Johnson, our BOD Secretary and webmaster, Bill Newell and myself are vetting a proposal from a third-party website developer to make our online presence mobile-friendly to enhance the experience of visitors to both our website and the airport itself, to increase the use of social media to reach out to members more often with relevant content and to integrate that presence with improvements in the efficiency of our daily operations. The BOD will soon review that proposal and may take the first step in implementing the changes that seem most effective for the least cost possible this season.

This season should be filled with activities outside the normal flying operations. Bob Messner has set up the social calendar, Rick Hanson has scheduled two youth camps again this year and Bill Newell has arranged two camps in the Fall for members of the 20,000-member Boston Ski and Sports Club. Though the Parker family has advised us that no airshow will occur this year, Steve Platt is arranging for a sky full of gliders over the July 4 weekend competing in the Second Annual President's Cup, an event that brought a competition to the club for the first time in a number of years. The competition is low-key, very friendly and safe for all pilots. If you are interested, please let him know your interest as soon as you can.

See you at the airport!

Fritz Horton, President

Sugarbush Soaring Association Board Meeting

The meeting convened at 5:00 pm in the home of Carl & Sharon Johnson.

Present were directors Tom Anderson, Buddy Duncan, Tom Emory, Marv Ginzel, Fritz Horton, Carl Johnson, Bill Newell and Steve Platt.

Also attending were members Bill Martin and Pierre Swick. Carl Johnson recorded the minutes.

The published agenda for the meeting was as follows:

1. Chief Pilot's Report (Rick Hanson will be out of town. A member will read his written report and BOD will add it to the minutes.)
2. Treasurer's Report (Tom Emory) to include Tom's proposed 2015 Budget and 2015 Rates
3. Operations Safety Committee Report (Tom Anderson)
4. Equipment Maintenance & Repairs (Rick Gehlert)
5. 2015 Social Events & Calendar (Bob Messner)
6. Marketing Report (Fritz Horton)
7. Website & Communications (Carl Johnson and Bill Newell)
8. Other Business

The minutes from the October 25, 2014 meeting were not immediately available, and it was agreed to review and approve them via email.

Chief Pilot's Report:

- Fritz opened the meeting with a review of Rick Hanson's Chief Pilot's report
- The board agreed on the dates of July 4 for the President's Cup Race and June 27/28 for the BSSC weekend.
- Bill Newell explained purpose of BSSC
- Steve asked about the price for the BSSC weekend
- Feedback from BSSC was that price last year was very inexpensive, and that we should add a "learn to fly a glider" lesson package for \$199 (we charged \$130)
- Current charge for lesson package is ~\$165
- Bill N. motioned that we charge \$149 for the package
- Motion was seconded by Fritz, and passed unanimously
- Youth camps – current price is \$2150 as already suggested by Rick
- Steve moved to accept chief pilot report, seconded and passed

Treasurer's Report (Tom Emory):

- Club had 1,416 flights last year, similar to recent years ranges of 1,407 – 1,442
- Overall we had a good year in 2014

- PW-6 loan repayment is on track
- Revenues were up from \$185K to \$217K, mostly because of raised prices.
- Tom is not in favor of raising prices again this year
- Member dues revenue was up – more members and higher dues (\$35.6K to \$43.3K)
- Income was higher and expenses stayed relatively the same
- Operating loss dropped from \$20,917 to \$2,281
- Depreciation expense in 2014 kept us from having to pay taxes (net loss of \$1,558)
- 1,850 gallons of gas are currently in the tank, will need more in June
- We sold substantially less gas in 2014 than in 2013 (33K down to 26K – mostly because of no airshow)
- We paid \$5.03 for gas, which we currently sell for \$6.50
- Tom A mentioned that it's possible to get avgas for \$3.50, and that we could plan on making \$1/gallon
- Tom A suggested that we go to 100ll.com to compare prices
- Tom E suggested that the board continue the discussion of appropriate price to charge over email/internet
- Tom E – repair of Pawnee wing cost is still unknown, probably ~\$13K
- The bill will be submitted to insurance.
- Steve asked for the total cost for last fall's accidents, not including the \$22K cost for the \$22 cost for the necessary overhaul and the amounts covered by insurance
- Tom E – K21 is ~\$10K, 2-33 is ~\$2.5K, we benefited from \$8K in donations (\$2K from Margaret Brown, \$1K from Bob Good, \$5K from Bob Messner)
- Tom E - The total cost to club should end up being ~\$4.5K
- Insurance will pay for sudden stop inspection (\$17K) and propeller (\$1K)
- Engine overall cost \$38K minus \$15K from insurance
- We had to buy a new crankshaft for the engine.
- Tom attempted to expedite Pawnee repair process by finding wingtip in Canada made by PlaneBooster. It cost \$445CAD plus shipping of \$200CAD, but didn't exactly match left wingtip. STC wingtips were available from CubCrafters. He ordered left and right wingtips from CubCrafters and took them down to Scott Draper in Rutland. They may have to fiddle with wingtips to get them to match. Tom is keeping in close touch.
- Buddy asked for permission to buy a new set of bolts and clips for panel – can get them from Aircraft Spruce – Tom said to go ahead with this purchase
- Tom again suggested that we maintain current rates, unless we raise salaries (fuel is going down)
- Core inflation has been quite low 1.5% (Bill N)
- Tom and Buddy will review current salaries and will get back to board with suggestions for any changes.

BoD Meeting Contd.**Social Events and Calendar: (Bob Messner,)**

- Bob briefly reviewed social calendar and diner staffing proposal (continue with Kim)
- Bob suggested that the board should continue the discussion with him after meeting

Operations Safety Committee Report: (Tom Anderson)

- Tom A described the findings and recommendations of the safety committee, which came out of three meetings between Rick Hanson, Steve Platt and Tom over the winter
- Goals: improve safety and answer insurance company questions as to how we'll lessen loss rate in future
- Safety committee will push improved culture of safety (longer meetings, review all documents prior to safety meeting)
- Want to do safety briefings on a monthly basis during cookouts
- Will conduct CFG mandatory briefings
- Daily weather and safety briefing
- Will enforce a timeout / "knock it off" protocol – empower people to do this
- Towplane safety – email blasts and briefings
- Plan to revise soaring pilot handbook
- Rick has sent out a pre season safety write-up
- Emphasis on standard tow signal knowledge
- Will be a separate line crew training document
- Feedback mechanism (lessons learned)
- No runway incursions goal
- Control parking
- Golf Cart usage protocol – must be careful about who and how are they used.
- Steve is concerned about some of the aging club members. Special care will be taken with them.
- Will institute a buddy program to go with designated older members

- Tom E - insurance company is pleased with our responses to safety issues
- Tom A – emphasized need for everyone to be safety eyes and ears

Website & Communications Report: (Carl Johnson and Bill Newell)

- Carl and Bill gave a quick overview of our current web technology and the proposal from Tinetrrix to redesign our web site Carl is generally satisfied with the technologies recommended by Tinetrrix, but believes that we should think through our short- and longer-term vision for the web site before agreeing to a limited proposal
- Carl moved to create a web research committee consisting of Bill N, Tom A, Fritz, Carl
- Motion was seconded by Steve and passed
- Bill assured board that web developer will only take 6-8 weeks for first iteration
- Committee agreed to present vision/scope/milestones document to BOD on or before March 15.

The next meeting was not scheduled, but will most likely occur on May 16 opening day.

Meeting adjourned at 6:10pm

In the days following the meeting, individual board members voted via email to approve the 10/25/2014 BOD meeting minutes. Fritz indicated via a 3/5/2015 email that a quorum had been achieved and that the approval was official.

Respectfully submitted,

Carl Johnson, Secretary

Opening Weekend is May 16/17. Please be there to help rig gliders and set up the operation.

Don't miss the obligatory Safety Meeting at the clubhouse at 9:00 AM Saturday.

Sugarbush Soaring Association, Inc.

Treasurer's Report 2014 February 23, 2015

Overall 2014 was a successful year at Sugarbush Soaring. The season was safe, the club hit some important milestones, and we start the New Year with sufficient cash to begin operations. It is interesting to see how consistent we have been. In the last 3 years, total tows have not changed much (between 1407 and 1442), instructional flights have been virtually the same, and rides are up. Comp flights hit a new high – here is one area we should look at to see if we really need all those free flights. The other trend is in the other category. These are pure recreational flights and the trend keeps going down. I am not sure what this is telling us but we need to try to make some changes to see if we can do anything about it. Steve's round robin race last year was a good example of what can be done.

The 1,874 gal of fuel in the ground should last until late June if last year's usage holds. Unfortunately, our maintenance reserve has been depleted significantly. At this point we have paid for the repair of the ASK-21 and Miss Daisy, and the portion of the engine overhaul and crank not covered by insurance. Additional work is still in process for 14L and it will be covered by insurance. We will work on rebuilding the reserve as soon as we are able. Generous donations (a total of \$8,000) directed to the repair of Miss Daisy and the ASK-21 have helped offset additional costs for the repair of those ships.

As of this date we have approximately \$10,500 in our checking account and \$14,298 in the maintenance reserve account. This is sufficient to cover startup costs for the 215 season. Regarding Profit & Loss; the numbers as reviewed by Michele of Hall and Holden, our accountants, show that in 2014 the club had total revenue of \$217,048 vs. \$184,982 for 2013; clearly a great year. Even though revenues were up, expenses were held in check. The club showed an operating loss for the year of \$2,281 vs. a loss of \$20,917 in 2013. Note that this loss included an asset depreciation charge to our expenses of \$27,988 in 2014 and \$16,018 in 2013. The book value of our assets, including all of our eight aircraft, is \$131,103 as of the start of 2015. Membership in the club is at a 6 year high. Currently there are 103 member shares outstanding, 15 youth member shares outstanding and 19 treasury shares available.

The loan from shareholders for the purchase of the PW-6U has been paid down to \$33,500 from its original \$70,000. We intend to continue to accelerate this pay-down to the maximum extent possible with a goal of having it paid down in four years. Just a note regarding N8514L; the engine had over 2200 hours SMOH and was running fine. We did not need to overhaul it at this time, but due to the accident in October, we found it necessary. The cost of the overhaul was partially covered by insurance and the club covered the balance. That balance was capitalized and will be written off over the next few years. The net cost of the overhaul to the club was approximately \$22,700. The club maintains a line of credit for \$35,000 in case it is needed to cover short term cash requirements. As of this date it has not needed to exercise this line.

Resectfully Submitted,

Tom Emory, Treas.

Opening Dinner at Terra Rossa Restaurant
Saturday Evening 5/16 at 6:00 PM.
See details on Page 22.

No Such Thing as Solo

Almost everyone asks, early in flight training: “When will I solo?” Of course we all know that there is no magic number of hours or flights when everyone can fly by him- or her-self. Everyone is different, learns in different ways at different rates, has some or no previous flying experience, and for a myriad of reasons, will be signed off by an instructor to fly alone for the first time – eventually. What becomes evident – eventually – is that we never, truly, “fly solo,” though, in the strict sense of the word, we may be alone in the aircraft. What? Let me explain.

We are all dependent on one another in so many ways. We are a connected, social bunch, we humans. The actions of one can have profound effects on the rest. Someone alone in a car, in an aircraft, or in his thoughts can cause changes in the lives of all nearby in ways we can hardly imagine beforehand. A single moment of inattention, irresponsibility, or mental confusion can impact a lot of “solo” individuals in ways we might never be able to predict.

The act of “soloing”, making decisions for oneself, carries with it the responsibility to others that is way more important than the simple act of thinking for oneself. We must carry the implicit burden of not adversely impacting those around us. When you make decisions “solo,” you, hopefully, have learned that choices, judgements, and plans you form for yourself are not made in a vacuum, but go beyond “solo” to not negatively impact or risk those around you.

Every time we fly, whether there is another person physically with us in the aircraft – or not – we must consider the connections we have with both a relatively small group of other pilots – the tow pilot or glider pilot on the other end of the rope, other glider pilots we may know well flying near us or returning to land and not in sight, as well as a much larger group of family, friends, neighbors, and unknown members of our world that depend on us all to do this safely and who can be impacted by what we do. No matter what the mantra is about “When I fly, I only have to worry about myself and my aircraft,” the truth is that we are never “solo.”

In a far larger sense, as well, we must all remember that we don’t live in a “solo” world. No matter how insulated we may feel up here in the mountains of Vermont, and how free and independent we may feel alone in a glider at altitude with the world below looking oh so neat and organized, we depend on one another. Let’s fly like that. Let’s try our best to live like that.



Photo Collection



Top Left: Ken Blair and Graham Ramsden in the PW6

Top Right: Fritz Horton landed out in Granville Gulch

Center: Alex Scaparotti and Tom Anderson

Lower Right: Bill Newell airborne in his new HPH 304c Wasp Whisky November





Photos: Top: Chris Courtney picture of Daisy on tow.

Above: Steve Platt with Amelia Brown after first solo driving Miss Daisy.

Above Right: Bob Messner swapping 38:1 for 23:1

Right: Steve and Bobbie Platt ready to go in the PW6.



Raouf A. Ismail

Raouf Ismail died suddenly of cardiovascular disease on November 13, 2014. Born in 1940 near Bombay, India, Raouf Ismail lived in India and Europe until moving to England to prepare for the British education system. After five years at Rugby School, he matriculated at Jesus College, Cambridge, UK where he earned a BS and MA in Mechanical Sciences. He then worked at Sperry Gyroscope in the UK. He emigrated to the US in 1968 and settled in the Boston area, spending the last forty-one years in Concord, MA where he lived with his family until his death. Once in the US, he worked at Transitron Electronic, and Dennison/Avery before deciding to earn an MBA at Harvard from 1974-1976.



An avid sailplane pilot from his first flights as a teen, Raouf continued flying until health issues forced him to stop in 2011. His interest in flying started while still in school. He subsequently learned to glide with the Cambridge Gliding Club while a student at Cambridge University. For many years, he was a member of the Sugarbush Soaring Association in Warren, VT. USA, where he also served as president. All through his life, his passion for gliding never left him, and he successfully turned an avocation into a vocation. Beginning with a prize-winning paper at Cambridge University, he moved on to designing glider instruments, two of which are now housed in the National Air and Space Museum. In 1971 he began his life as an entrepreneur and became the founder, owner, and CEO of Cambridge Aero Instruments, Inc. By 1980, CAI had manufactured more than 4,000 instruments. Following introduction of the M-NAV glide computer, he sold the gliding instrument business to David Ellis. Raouf then developed his industrial airflow sensor business as founder and CEO of Cambridge Aeroflo Inc., and, successively, as founder and CEO of Cambridge Accusense Inc.

A citizen of the world, Raouf thrived on travel, for international business, for gliding, and for pleasure with his family. He travelled to six of the seven continents, missing only Antarctica. He took an active interest in Foreign Affairs, through which he was an engaged member and treasurer of the Worcester Council on Foreign Affairs. He brought his ease in international settings, as well as his knowledge of French and German to working with small business development and strategy. He was a Vice Chair of the Small Business Association of New England. He later volunteered at the Senior Council of Retired Executives. He enjoyed being an active member of the Oxford and Cambridge Society of New England, serving recently as treasurer.

Raouf is survived by his wife of forty-three years, Sarah, his daughter Lara, his daughter-in-law Rosa, and his granddaughters Alexa and Ariana. His sisters Suraiya and Yasmine, his cousin Usman, and their families also survive him.

Sarah Ismail

Luke C. Hammer

Oct. 6, 1995 to Nov. 22, 2014



Beloved son, grandson, nephew, cousin and friend, Luke Hammer passed away unexpectedly while pursuing an aviation/business degree at Westminster College in Salt Lake City, Utah. A Montpelier High School graduate of the class of 2014, Luke was known for his ingenuity, creativity, compassion for others, Rubik's Cube speed, ultimate Frisbee, chess prowess, flying, skiing and love of the mountains. Luke developed his passion for flying working on the line crew at Warren Sugarbush Airport. There he was mentored,

loved and inspired, becoming a licensed glider pilot at the age of 17. He also loved to ski and was a ski instructor at Sugarbush Ski Resort. Hiking was a favorite family pastime, and Luke enjoyed many hikes in the White Mountains, White Rocks and Hunger Mountain, and never missed the traditional New Year's Day hike up Camel's Hump (with Mad River Rockets in tow for the ride down). At Westminster, he and his close-knit group of friends took many weekend adventures, including a trip to Las Vegas not long ago. His friends described him as "kind," "easy-going," "quiet but in a comfortable relaxed way," "smart," "funny," "understanding," "generous," "fun-loving" and "adventurous." He was known for his love of black coffee, Honey-Nut Cheerios without milk, and "butter with a little toast." He is survived by his parents, Kris Hammer and Nancy Chickering; his paternal grandparents, Paul and Esther Hammer; his maternal grandparents, Art and Jo Chickering; and many aunts, uncles, cousins and friends far and near.

In lieu of flowers, please support the Luke Hammer Scholarship Fund, for students with a demonstrated passion for aviation. Please mail your gift to Westminster College, Advancement Department, 1840 S. 1300 East, Salt Lake City, UT 84105 or donate online at westminstercollege.edu/giving.

Gliding Kiwi

Tim Larsen

Last November my wife Mary and I traveled, via the longest commercial flight in the world, (Dallas to Sydney, 17 hours and 8200 miles), to the South Island of New Zealand. After spending four beautiful, and very windy, days driving around the southern coast and the fjordlands to the west, we headed inland to the McKenzie Basin and Omarama. I signed up for the five day mountain soaring course offered by Glide Omarama.

First order of business was checking into our rented chalet (one of many) on the field. Ours was owned by the famous Kiwi pilot Dick Georgeson. I figured that was a good omen for the week. All the facilities on the field are world class, including a large auditorium/lecture hall, separate class rooms, office, and of course, a bar.

The daily routine was to arrive at the main building for the 10:00 weather briefing, head upstairs for ground school, head off for a one hour lunch break, then fly. On the first day, I was introduced to my instructor for the week, local pilot Phil Plane (yes, his real name). By pure coincidence I ran into Charlie Ryan and his wife Jan. Unbeknownst to me, Charlie is a regular at Omarama. This was his eighth trip. After lunch, it was time to meet my steed for the week, DUO Discus DD, I'd never flown a Duo, so I was definitely looking forward to this. The day was looking promising with cu's popping and relatively light winds. The coastal winds we experienced on our way to Omarama seemed to disappear, which was a mixed blessing. Once

everything was ready to go, proper tail ballast loaded in (evidently, the Duo can be a real dog if you don't have the CG correct), GoPro behind the cockpit up and running, it was time get things rolling. I asked Phil to do the first tow so I could get oriented. Release at 1400' agl and off we went – right down to 500'. I was glad Phil had the controls here. I wasn't going to try a low save in a 20 meter ship I'd never flown before. Not too long after, however, we picked up 4 knots to 7500' msl. Now we're talkin'. Time to head for the hills. Light winds, cu's to 9000'. It took no time to get used to the Duo. You aren't aware of the long span. It is a sweet ship!

Once in the mountains, we headed north up to Mt. Brewster. Phil was directing me all along to pick up the nuances of real alpine flying. Tight thermals, 10kts up in half the turn, 10kts down in the other half. It took a lot of concentration and persistence, but it paid off. We circled around the Brewster pinnacle and as we came to the north face, where a glacier slopes down at a somewhat flat angle, Phil took the controls and flew a high speed pass 50' above the snow. The two mountain climbing skiers we passed between were a bit surprised! From there we headed west, turning back just 10 miles from the ocean. The sea breeze was coming in, so that was about as far as was prudent. On down to Siberia, then across the azure lakes of Wanaka and Hawea on our way back to Omarama. 220K under our belts.

Day 2 – Phil had a dentist appointment, so I flew with Austrian pilot Martin Katschner. It was

a mostly blue day, but there were some cu and light winds again. The good news was that the lift went to 10,000'; 4 and 5 kts was typical. After releasing at the foot of Mt. Horrible (love the names down there), we headed west and ran right up the top of the Hunter River ridge, crossed to the Ben Ohau range and up to the Mt. Cook airfield. The conditions didn't warrant continuing to Mt. Cook that day. From there we turned south to the bottom of the Ohau range and back home again, another 200+K under the belt. The perspective of being in the middle of the island and watching the sea breezes envelope the feet of the mountains on both coasts was a memorable sight indeed.

Day 3 – Mother Nature was not cooperative this day with overcast skies and some rain, so we scrubbed the flight. The weather in early December is late spring down there and the latitude is exactly the same as here in Vermont, so conditions can be tricky. A note on the topography. The Southern Alps are craggy, dark, and very steep. On most of the ridges the peaks are knife-edged. The altitudes are largely around 6-8000' with Mt. Cook topping out at 12,000'. This time of year had plenty of snow on the peaks. All together the thermal, wave, ridge, and convergence generation is impressive. In 20+ years of soaring, I've little to no experience with convergence, or tall craggy mountains. That's the reason I took this course.

Tim Larsen



Lake Wanaka

**Tim and Mary Larsen with
distinctive NZ Background.**



Mt.Cook

Lake Oahu



**Steep turn over
Lake Oahu**

Mt. Brewster





Photo: Chris Courtney

QUIZ SECTION

It's quiz time. On the following pages there are two quizzes, one prepared by Rick Hanson to help you check out some of the most important aviation knowledge every pilot should know, and a more technical one by Steve Platt for pilots aspiring to optimize their cross country and thermalling skills.

Spring is almost here! The snowbanks are receding from the hangar doors, the runway is clear, Ole's is closed for the season, and the first buds are on the trees! I have hopes that you have looked over and answered the questions that were on the preseason safety quiz that we sent out about a month ago - please take some time and check your answers with the attached answer key to see how you did - HEY! NO CHEATING! Sure, you can look at the crossword puzzle solution for those tough words, and you can shuffle the cards while playing solitaire - but why not see how you do. There are references for the answers and most of the referenced documents are accessible on line. Please memorize the tow signals and checklists - they will be an important element of the annual field check with an instructor, and again at flight review time. And they might just save you from embarrassment or an accident! Thanks! See you in about a month!

Rick Hanson and the Instructional Staff

So turn the page and begin...

Test your Knowledge of Regulations and Safety Procedures

1. CFR(Combined Federal Regulation) Part 91:

- a. Only applies to powered aircraft
- b. Is “General,” so can be ignored
- c. Does not apply to moored and unmanned free balloons, kites, unmanned rockets
- d. Reads like a great novel

2. The “pilot in command” on any given flight:

- a. Is the final authority as to the operation of that aircraft
- b. May not, under any circumstances, deviate from the rules of Part 91
- c. May be asked, by the “administrator” for a written explanation when deviating from Part 91
- d. A and C above

3. The pilot in command must:

- a. Ensure that passengers are briefed on the proper use of seatbelts
- b. Ensure that passengers have belts and harnesses fastened prior to moving
- c. Except in emergency, NOT carry anyone under the influence of drugs or alcohol
- d. Ensure the aircraft maintenance is up to date prior to flight

4. Who has the right of way? In each case below, indicate which aircraft has the right of way over the other(s):

- a. A glider on base and a glider on downwind
- b. A tow plane turning base and a power plane back taxiing on the runway
- c. An aircraft in distress and a glider on final
- d. A helicopter on downwind, a glider on downwind, a weight-shift ultralight on final
- e. Two gliders approaching one another at a 90 degree angle
- f. Two gliders on downwind one at 800’ AGL, the other at 400’ AGL
- g. A glider and tow plane with a glider on tow converging

5. The minimum Safe Altitude over a Congested Area is:

- a. 1,000 feet AGL above the highest obstacle within 2,000 feet
- b. At an altitude that, in the event of an emergency, would allow a landing without undue hazard to persons or property on the ground
- c. The same as over an open air assembly of persons
- d. All of the above

6. The Altimeter:

- a. Can be set to Zero before takeoff so you always know how high you are
- b. Can be set to the altimeter setting (barometric pressure) of the nearest airport
- c. Can be set to the elevation of the departure airport
- d. Must be set to 29.92 inches of mercury passing through 18,000 feet

7. Airspace: Below 1200 feet AGL where 0B7 is located:

- a. Is Class G Airspace – we must remain clear of clouds and have 1 mile of visibility
- b. Is “Uncontrolled Airspace” and we can do whatever we want
- c. Becomes class “E” airspace above 1,200’ AGL - then we must be at least 500 feet below, 1,000 feet above, and 2,000 feet laterally from clouds
- d. Class G Airspace goes to about 3,800 feet MSL over parts of the east ridge

8. Burlington, because it has a control tower and radar service:

- a. Is a terribly scary place to think of going in a light aircraft
- b. Is Class C and requires radio communication and permission to land
- c. Requires a transponder and radar identification to enter Class C
- d. Does not have the traffic load and congestion of a larger Class B airport
- e. All but a (unless you have no radio or transponder, and don’t agree with 2 (a and c) above)

Answers on page 21

9. Restrictions: A “TFR” is:

- a. A Terrible Foolish Regulation
- b. Only for Transient Flight Recovery aircraft
- c. Is a Temporary Flight Restriction that can be imposed at any time
- d. Not applicable to glider flight

11. Someone possessing a Private Pilot Rating:

- a. May not carry passengers or cargo for compensation
- b. May share expenses with other passengers
- c. Must have had a flight review within the last two years in order to fly as Pilot In Command
- d. Must have logged 3 landings in the previous 90 days in category and class (airplane-single engine land / glider/ etc.) to carry passengers
- e. All of the above

12. Tow Signals: Describe the signal for each of the following emergencies:

- a. Tow Pilot signals the glider that the glider's spoilers may be open on T.O.
- b. Tow pilot signals: Release Now!
- c. Glider signals: I can't release!
- d. Glider signals: Slow down
- e. Glider signals: Speed up!

13. The Traffic Pattern: The preferred entry points to the pattern are:

- a. A spiral descent from overhead
- b. A diving pass over the runway and a sharp pull up onto downwind
- c. A 45 degree to midfield downwind entry at pattern altitude
- d. A crosswind entry from an entry point across from midfield downwind
- e. C and d above are acceptable

14. Position lights are required to be turned on:

- a. On any civil registered US aircraft between the hours of sunset and sunrise
- b. On any aircraft between 1 hour before sunset and one hour after sunrise.
- c. At the discretion of the PIC
- d. Only if the aircraft has an operating electrical system

15. List the following for the**Schweizer 233****PW6****ASK 21**

- a. Min front seat wt without ballast:
- b. Min front seat wt with ballast:
- c. Max front seat wt:
- d. Max gross wt:
- e. Empty wt:
- f. Min sink dual:
- g. Best glide dual:
- h. Vne:
- i. Stall speed (dual):
- j. Maneuvering speed:

16. List the items, in order, for the Before Takeoff Checklist that you use:

17. List the items, in order, for the Before Landing Checklist that you use:

18. One thing I'd like to see change at the airport is:

19. One thing I feel I don't know enough about is:

20. My goal in soaring is:

Glider Performance Puzzler

by Steve Platt

See how well you understand glider performance and aerodynamics. Take the 10 question quiz and see how you do: Answers shown on Page 21. If you get 9 or 10 correct you're an Ace. If you get 5 or less correct, you need remedial training!

Question 1. You are flying your glider with 20 knot tail wind trying to make it back to Sugarbush airport. What is the best speed to fly (STF) to maximize distance and minimize energy (altitude) loss?

- A. Minimum Sink Speed
- B. Best L/D Speed
- C. Best L/D Speed plus 7 knots
- D. Best L/D Speed plus 10 knots
- E. Somewhere between Minimum Sink Speed and Best L/D Speed

Question 2. You have just entered a Standard Summer Thermal.....with Airmass lift at the core of 4.2 knots decreasing to zero at a radius of 1000 feet. Based upon the Physics and Aerodynamics of all gliders, what is the optimum angle of bank and airspeed to fly, once centered in the thermal, to maximize the net rate of climb?

- A. 20 degrees of bank and minimum sink speed
- B. 30 degrees of bank and minimum sink speed
- C. 30-35 degrees of bank and minimum sink speed plus 7%
- D. 45 degrees of bank and Best L/D speed
- E. 45 degrees of bank and minimum sink speed plus 5%

Question 3. Two ASK 21's, one flying at 45 knots, and the other flying at 90 knots both enter a 30 degree banked turn at the same time. Which statement is correct:

- A. The Slow ASK 21 reverses direction first
- B. The Fast ASK 21 reverses direction first
- C. Both ASK 21's have the same rate of turn
- D. Both ASK 21's reverse direction at the same time
- E. None of the above

Question 4. You have been asked to give a 20 minute Glider ride early one morning. The air is perfectly still. There is absolutely no lift. You want to minimize the tow height if possible to accomplish the flight. You have a choice of using the PW6 or the ASK21 for the mission. Both gliders have a Best L/D of ~34 at approximately the same speed. The Minimum sink speed for the PW6 is ~51 knots and for the ASK 21 is ~45 knots. Which glider would you use and Why?

- A. The ASK 21 because it is heavier, more stable
- B. The PW 6 because it is lighter
- C. The ASK 21 because the minimum sink rate is less at its minimum sink speed
- D. The PW 6 because the minimum sink rate is less at its minimum sink speed
- E. It does not matter either the PW 6 or the ASK 21 will perform the same if flown at the minimum sink speed of each glider.

Question 5. An SGS 126 and a high performance Ventus both are centered in the same thermal and both gliders fly at the optimum angle of bank and airspeed for their makes. The SGS out climbs the high performance Ventus. What is the most likely reason:

- A. The SGS 126 is lighter and the Ventus
- B. The SGS 126 has a lower stall speed Ventus
- C. The optimum angle of bank for the SGS 126 is steeper than for the Ventus
- D. The radius of turn of the SGS 126 is considerable smaller than the Ventus
- E. The optimum angle of bank for the SGS 126 is shallower than for the Ventus

Puzzler Cond.

Question 6. You are returning to land in the PW6. The wind is blowing 25 knots right down runway 22. You normally land the PW6 at ~60 knots on short on calm to light wind days. Today your landing approach will be different. Which statement is most correct:

- A. You will turn base later than “normal” and hold extra speed ...ie....~65-70 knots
- B. You will turn base at the same time as normal and hold extra speed ie....~65-70 knots
- C. You will turn base sooner than “normal” and hold extra speed ie.....65-70 knots
- D. You will turn base when you get down to 2000 feet MSL and hold normal landing speed
- E. You will turn base when you are ~ 45 degrees to the Runway 22 and hold extra speed

Question 7. You are on a cross-country flight at 7500 feet well above the top of Burlington’s Class C airspace and just north of the lateral limits of BTV’s airspace . The shortest distance for your final glide to your destination airport, Basin Harbor, is over the top of BTV’s airspace. You determine that you can easily stay above the top of BTV’s airspace as you head directly to Basin Harbor. Unfortunately, your radio is not working but your transponder is operating properly squawking 1200.

Can you legally cross above BTV without talking to BTV approach control?

- A. No, you must establish two radio communication with Burlington approach and have a clearance.
- B. No, you do not need a clearance, but you must establish two way communication with BTV approach.
- C. No, you do not need a clearance and you do not need to establish two way communication, but you need a discrete transponder code other than the common 1200
- D. Yes, as long as your transponder is working no communication with BTV is required.
- E. Yes, you do not need radio communication with BTV and you can turn your transponder off.

Question 8: As your wheels leave the runway on takeoff from Warren -Sugarbush airport, what type of airspace are you in:

- A. A airspace
- B. C airspace
- C. E airspace
- D. G airspace
- E. E airspace daylight, G airspace at night

Question 9: Two identical ASK 21 gliders both get a 3000 ft. tow and fly in the same direction. One ASK 21 is at gross weight and the other is 250 pounds under gross weight. It is a perfectly calm morning with no lift.....ie. still air. If both gliders are flown optimally, which statement is correct:

- A. The heavier ASK 21 will fly faster and can fly farther
- B. The lighter ASK 21 will fly slower and can fly farther
- C. The lighter ASK 21 can stay up longer if both gliders are flown at their optimal minimum sink speeds.
- D. The heavier ASK 21 can stay up longer if both gliders are flown at their optimal minimum sink speeds.
- E. Both ASK 21’s have the exact same Best L/D glide ratio, but the heavy ASK 21 will fly faster and farther.

Question 10: For all conventionally configured gliders, when rolling into a coordinated steep bank turn, of approximately 60 degrees of bank and increasing the load factor to two g’s, the instantaneous stall speed increases by:

- A. 20%
- B. 30%
- C. 41 % or the square root of the g load
- D. 60%
- E. Gliders can not make coordinated 60 degree bank turns without entering an accelerated stall

Bonus Question: You are over the airport giving a ride when there is no lift whatsoever. You are attempting to extend the time a loft by flying at the optimum minimum sink speed for your configuration (weight). To stay directly over the airport you enter a In a coordinated 30 degree banked turn. For all gliders, in a coordinated 30 banked turn, which statement is correct:

- A. The optimum minimum sink speed increases by 7.5% and the sink rate increases by 24%
- B. The optimum minimum sink speed remains the same and the sink rate remains the same.
- C. The optimum minimum sink speed remains the same, and the sink rate increases by 24%
- D. The optimum minimum sink speed increases by 7.5% and the sink rate remains the same
- E. The optimum minimum sink speed increases by 7.5% and the sink rate increases by 94%

Steve's answers

The answers to the questions are: (Note there are two answers for the two question 4's) . You can re number later.

1. E
2. C
3. A
4. C
4. D
5. D
6. C
7. D
8. D
9. C
10. C

Bonus question: A

Rick's answers

1 c. is correct. CFR Title 14 Part 91 General Operating and Flight Rules. And they haven't yet written the rules for UAV's.

2 d is correct. Part 91.1(b).

3 All are correct. Part 91.7, 91.17, 91.105, 91.107.

4a Glider on base

4b Tow plane turning base

4c Aircraft in distress

4d Glider on downwind

4e Aircraft on the right

4f The other at 400' AGL

4g Towplane with glider on tow (91.113)

5 d (91.119)

6 b,c and d (91.121)

7 a,c&d are correct. G airspace goes to 1200 feet AGL where we are, and the ridge is, in places, 1200 feet above the airport's 1470 feet MSL. So $-1200 + 1470 + 1200 \text{ AGL} = 3870$. CFR Title 14 Part 71.71 and Aeronautical Information Manual 3-3-1 and 3-3-2.

8 b, c, and d are correct – or e is an acceptable answer if you can deal with the syntax. Aeronautical Information Manual, section 3. Check out the good videos on You Tube on airspace – they are short and informative.

9 c is correct. 91.137, 91.139, 91.141.

10 d is correct. 91.141, 91.145

11 e is correct. CFR 61.113, 61.56(b), 61.57. Part 61 of the regulations deals with certification requirements.

12 Glider pilot rocks wings directly behind the tow plane.

Glider Flying Handbook

13 e is correct. Aeronautical Information Manual 4-3-1 to 4-3-5.

14 a is correct. So – if you have no lights, you can't fly from official sunset to official sunrise. Oh, and the military CAN fly without lights at night. Ouch. (91.209)

15	Schweizer 2-33	PW6	ASK 21
a	155#	121#	154#
b	110#	121#	121#
c	275#	242#	242#
d	1040#	1204#	1323#
f	42mph	49kt	44kt
g	52mph	57kt	55kt
h	98kt	1541kt	151kt
i	32mph	40kt	39kt
j	65mph	89kt	97kt

Some of these numbers vary from publication to publication, in some cases the manufacturer gives different figures in the same manual. Remember there is no provision for factory ballast in the PW 6.

16 See the Glider Flying Handbook or use an appropriate checklist for your glider.

17 Same as above.

18, 19 & 20 - Give some serious thought to these last three questions – the best thing is there are no right or wrong answers – material for discussion on opening weekend. Thanks!

Sugarbush Soaring Association Events Calendar 2015

Saturday, May 16

Opening Day!!

9.00 am Safety briefing - mandatory for all pilots at Sugarbush Soaring clubhouse.

10.00 am Club glider assembly - all Club members are asked to participate.

5.30 pm Opening dinner. Location Terra Rosa Restaurant.

Sunday, May 17

9.00 am Club glider assembly continues if not finished Saturday. Annual check rides for members.

Saturday, May 23

5.30 pm Memorial Day cookout.

On the deck - Sugarbush Soaring clubhouse, Warren-Sugarbush Airport.

Saturdays, June 6 through July (Except July 11)

8.00-10.30 am **Ground School** - for all members and interested parties. FAA Knowledge Test Prep for Private Pilot (Airplane, glider, & sport ratings), and a good review for certificated pilots. Reservations needed, and a fee charged for materials and instruction. Sugarbush Soaring clubhouse. Contact the office at (802) 496-2290 for details.

Saturday, July 4

5.30 pm **Fourth of July cookout.** On the deck - Sugarbush Soaring clubhouse.

TBA Second Annual President's Cup races

Sunday, July 12- Saturday, July 18, and

Sunday, August 2 – Saturday, August 8

Youth Soaring Camps

Daily ground school and ten flights for each student during this week of fun. Camping on the field, students will immerse themselves in aviation for the entire week, including a visit to Burlington Airport tower and approach control facilities. Fun activities include swimming, kayaking, movie night, and just flying in Vermont's Green Mountains! Participants must be age 13-17 Warren-Sugarbush Airport. Contact the office at (802) 496-2290 for details.

5.00 pm Sundays July 12 and August 2

Welcome cookout for youth campers and their families. On the deck - Sugarbush Soaring clubhouse.

Saturday, September 5

5.00 pm **Labor Day cookout.** Auction and dinner to benefit Flight Experience for Youth (FEFY). On the deck - Sugarbush Soaring clubhouse.

Saturday, October 10

5.00 pm **Columbus Day Cookout** On the deck - Sugarbush Soaring clubhouse.

Saturday, October 3- Sunday, October, 18

Fall Wave Camp

Every day, all week, during the most-likely time of the year to fly the famous Sugarbush wave!! Bring your own ship.

Check out in Sugarbush two-seaters. Briefings on wave conditions, wave windows, and FAA regulations.

Social events; no tie-down or camping fees this week.

Saturday, October 24 and Sunday, October 25

Closing Weekend

9:00 am Club glider disassembly - all Club members are asked to participate.

Saturday, 5.30 pm Closing dinner. Location TBA.

Sunday, 9.00 am **General membership meeting**, Sugarbush Soaring clubhouse In addition to the scheduled club cookouts, there will be spontaneous cookouts many weekends throughout the soaring season (weather permitting). . Check the "event calendar" tab on the for updates. Announcements of these events will be e-mailed to all Club members a few days before that weekend. If there is nothing scheduled, Club members are welcome to request use of the grills. Check with the office. Please be sure to clean the grills after use. The propane bottles must be removed and stored outside the building. The grill should be returned to the garage under the airport office after use.

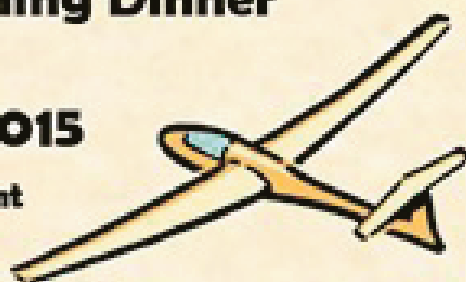


Sugarbush Soaring 2015 Opening Dinner

Saturday, May 16, 2015

**At the Terra Rossa Restaurant
(Sugarbush Access Road)**

\$38.50, Tax and Gratuities included



Cocktails (Cash Bar) Open at 6 PM

Dinner at 7 PM

First Course

House Salad or Caesar Salad

Entrée Options

New York Strip

5oz center cut beef topped with roasted mushrooms and mashed potato

Mediterranean Chicken

Sautéed boneless chicken breast served with artichoke hearts, mushrooms, roasted peppers, garlic and Kalamata olives tossed with penne

Shrimp Scampi

Shrimp sautéed in butter, white wine & parsley served over linguine

Eggplant Parmigiana

Dessert

Chocolate Chip Cannolis

Stuffed with whipped ricotta, mascarpone cheese and chocolate chips

RSVP by this coming *Friday, May 8th*

soar@sugarbushsoaring.com or 496-2290

Restaurant is opening for Sugarbush Soaring Members ONLY and requires a head count /entrée selection by next Friday, May 8th

Hope to see you on the 16th

